

Docket:	:	A.20-07-012
Exhibit Number	:	Cal Advocates - _____
Commissioner	:	G. Shiroma
Administrative Law Judge	:	C. Ferguson
Public Advocates Office	:	L. Cunningham
Witness	:	



# **REPORT AND RECOMMENDATIONS ON OPERATIONS AND MAINTENANCE AND SUPPLY EXPENSES**

**Application 20-07-012**

**San Francisco, California  
February 16, 2021**



## **MEMORANDUM**

1           The Public Advocates Office at the California Public Utilities Commission (“Cal  
2   Advocates”) examined requests and data presented by Golden State Water Company  
3   (“GSWC”) in Application (“A.”) 20-07-012 (“Application”) to provide the California  
4   Public Utilities Commission (“Commission”) with recommendations that represent the  
5   interests of ratepayers for safe and reliable service at the lowest cost. This Report is  
6   prepared by Lauren Cunningham. Eileen Odell is Cal Advocates’ project lead for this  
7   proceeding. Victor Chan is the oversight supervisor and Shanna Foley and Jamie  
8   Ormond are legal counsel.

9           Although every effort was made to comprehensively review, analyze, and provide  
10   the Commission with recommendations on each ratemaking and policy aspect of the  
11   requests presented in the Application, the absence from Cal Advocates’ testimony of any  
12   particular issue does not constitute its endorsement or acceptance of the underlying  
13   request, or of the methodology or policy position supporting the request.



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## **EXECUTIVE SUMMARY**

### **I. Introduction**

This report presents Cal Advocates’ analysis and recommendation of GSWC’s requests related to operations and maintenance expenses (“O&M”) and supply costs.

### **II. Summary of Recommendations**

#### **A. Chapter 1: Operations and Maintenance Expenses**

The Commission should adjust GSWC’s lab fees to better align with the anticipated timing of perfluorooctanoic acid (“PFOA”)/perfluorooctane sulfonate (“PFOS”)/ (collectively “PFAS”) regulations and deny the escalation to its 2020 value. The Commission should also adjust GSWC’s companywide uncollectible accounts by removing GSWC’s 50% increase in the uncollectible rate, as recent legislation regarding water disconnection will not have the impact that GSWC anticipates.

#### **B. Chapter 2: Supply Costs**

The Commission should approve a companywide total of \$76,137,945 which is 2% greater than GSWC’s proposed budget for purchased water expense forecasts in test year (“TY”) 2022. Cal Advocates’ forecast of purchased water costs is based on average purveyor rate increases over the last five years. GSWC’s assumption that these expenses will not change from the date of the Application to the 2022 Test Year (“TY”) could lead to under-forecasting and decreased transparency as surcharges would be added to customer bills to collect the under-forecast.

The Commission should not permit GSWC to escalate the 2023 and 2024 attrition years using the Application escalation memo for electric purchased power expenses. Electric purchased power expenses are offset account expenses for which escalation is prohibited by the Rate Case Plan (“RCP”).

## **CHAPTER 1: OPERATIONS AND MAINTENANCE EXPENSES**

### **I. Introduction**

A forecast of operations and maintenance expenses for a given test year is necessary to develop a budget for operations and maintenance expenses. In general, GSWC's operations and maintenance expense forecasts are derived by escalating the inflation-adjusted, 2015 to 2019 five-year average of historical data, further increased by a customer growth factor. Cal Advocates' recommendation concerning GSWC's use of a customer growth factor to increase test year expense budgets is addressed in its Report and Recommendations on Customer Growth Factors and GSWC's Low Income Assistance Program.

### **II. Summary of Recommendations**

Table 1-1 below summarizes Cal Advocates' recommended adjustments to GSWC's forecasted total O&M expense budgets. Most recommended adjustments are the result of developing more reasonable forecasts of TY 2022 expenses. O&M expenses other than supply expenses are included in rates and not subject to recovery through offset balance accounts.

**Table 1-1 Comparison of Proposed O&M Budgets**

<b>Ratemaking Area</b>	<b>GSWC A</b>	<b>Cal Advocates B</b>	<b>GSWC &gt; Cal Advocates C</b>	<b>Cal Advocates as % of GSWC D</b>
Arden Cordova	\$4,001,367	\$3,946,275	\$55,092	98.6%
Bay Point	\$3,236,933	\$3,216,057	\$20,876	99.4%
Clear Lake	\$766,258	\$754,695	\$11,563	98.5%
Los Osos	\$1,206,485	\$1,185,719	\$20,766	98.3%
Santa Maria	\$4,802,871	\$4,718,259	\$84,612	98.2%
Simi Valley	\$9,761,752	\$9,742,586	\$19,166	99.8%
Region 2	\$67,345,988	\$67,100,698	\$245,290	99.6%
Region 3	\$60,303,639	\$59,989,196	\$314,443	99.5%
<b>TOTAL</b>	<b>\$151,425,293</b>	<b>\$150,648,686</b>	<b>\$776,607</b>	<b>99.5%</b>



### 1III. Discussion

#### 2 A. Lab Fees

3 The Commission should adopt the lab fees as provided in Column C of Table 1-2  
4 below.

5 **Table 1-2: GSWC's Proposed vs. Cal Advocates' Recommended Lab Fees**

<b>Ratemaking Area</b>	<b>Esc. 5-year Average A</b>	<b>GSWC B</b>	<b>Cal Advocates C</b>	<b>GSWC &gt; Cal Advocates D</b>	<b>Cal Advocates as % of GSWC E</b>
Arden Cordova	\$59,149	\$97,549	\$63,949	\$33,600	66%
Bay Point	\$15,098	\$19,898	\$15,098	\$4,800	76%
Clear Lake	\$15,119	\$17,519	\$15,119	\$2,400	86%
Los Osos	\$25,877	\$45,077	\$25,877	\$19,200	57%
Santa Maria	\$50,151	\$124,551	\$50,151	\$74,400	40%
Simi Valley	\$20,536	\$25,336	\$20,536	\$4,800	81%
Region 2	\$226,580	\$300,980	\$250,580	\$50,400	83%
Region 3	(\$12,600)	\$196,200	\$18,600	\$177,600	9%
<b>TOTAL</b>	<b>\$399,910</b>	<b>\$827,110</b>	<b>\$455,110</b>	<b>\$372,000</b>	<b>55%</b>

6  
7 GSWC requests an additional \$427,200 over its five-year average amount in  
8 annual lab fees across its ratemaking areas ("RMA") to comply with Division of  
9 Drinking Water ("DDW") PFAS testing requirements. GSWC derived its estimate by  
10 multiplying the \$2,400 per year (\$600 per quarter) testing price<sup>1</sup> by its 178 total sources.  
11 GSWC forecasts that it will test every water source every year due to the PFAS testing  
12 requirement.

13 Resolution W-5226 authorized GSWC to establish a memorandum account to  
14 track the incremental operating costs associated with PFAS, effective August 13, 2020,  
15 until GSWC's next GRC rates goes into effect, at which time it can include the expenses  
16 in its forecast. Cal Advocates does not oppose inclusion of additional PFAS-related lab

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<sup>1</sup> GSWC's response to LCN-001 Q.2, and LCN-001 Q.2 Example Invoice for Primary-Blank Lab Sample

1 fees in the revenue requirement starting in the 2022 TY. However, it is unlikely that  
2 GSWC will be required to test every water source every year given DDW's most recent  
3 PFAS General Order No. DW2020-0003-DDW ("GO"),<sup>2</sup> as explained below. As such,  
4 the PFAS testing forecast should be reduced by \$372,000 to reflect a total adjustment of  
5 \$55,200<sup>3</sup> annually in additional lab fees to be distributed across the RMAs. If a PFAS  
6 maximum containment level ("MCL") is adopted by DDW and should GSWC's costs  
7 exceed the budgeted amount, GSWC may request authorization from the Commission to  
8 establish a new PFAS memorandum account and track the incremental costs for  
9 complying with the MCL.

10 1. Current PFAS Regulations Do Not Suggest the Need to Test Every  
11 Water Source Every Year

12 The California State Water Resources Control Board ("SWRCB") is conducting a  
13 statewide assessment to determine the scope of contamination by PFAS in water systems  
14 and groundwater.<sup>4</sup> This assessment is being done using a phased approach with Phase I  
15 beginning where contamination is more likely, and near locations where PFAS was  
16 previously found. The next Phase will focus on water sources near industrial sites and at  
17 wastewater treatment facilities. Next, in accordance with SWRCB's most recent PFAS  
18 General Order No. DW2020-0003-DDW, GSWC must test 23 of its 178 water sources  
19 starting in December 2020, for every quarter until further notice. GSWC will not be  
20 required to test every single one of its 178 sources until the MCL is issued. Since water  
21 sources are being tested one type of area at a time, it is improbable that SWRCB will  
22 order GSWC to test every single one of its water sources every year, as GSWC assumes  
23 with its request. Therefore, GSWC's request for additional lab fees for this purpose is  
24 overstated and should be adjusted accordingly.

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<sup>2</sup> General order requiring monitoring for per and polyfluoroalkyl substances pursuant to California's Health and Safety Code Section 116378

<sup>3</sup> Refer to Table 1-3 Column D-G = \$372,000; refer to Table 1-3, Column E for \$55,200

<sup>4</sup> California Water Boards Media Release: State Water Board Updates Guidelines for Testing and Reporting PFOA and PFOS As It Assesses Scope of Problem, Process Begun for Establishing Regulatory Standards (August 13th, 2019)

1                   2. An MCL Is Expected to Be Established in 2024

2                   SWRCB estimates that the earliest an MCL will be established is sometime in  
3 2024.<sup>5</sup> Once an MCL and accompanying testing regulations are established, the  
4 associated costs could change. If so, GSWC can request a memorandum account to track  
5 the incremental costs for recovery.<sup>6</sup>

6                   3. GSWC's Request Further Overstates the Projected Costs by  
7                   Unnecessarily Escalating 2020 Costs

8                   The Commission should reject GSWC's methodology of escalating 2019 total lab  
9 testing costs to reach their 2020 value. GSWC incorrectly forecasted its 2020 estimate by  
10 escalating its 2019 costs which was based on a vendor invoice. However, GSWC  
11 provided an invoice dated 2020<sup>7</sup> which contains the same lab fees as those provided in  
12 the 2019<sup>8</sup> invoice, indicating that no escalation is needed to reach the 2020 values. As  
13 such, it is unnecessary for GSWC to escalate the 2019 cost to arrive its 2020 value.

14                  4. Adjustment to Lab Fees is Reasonable

15                  Using the most recent SWRCB's GO, Cal Advocates determined the total lab fees  
16 expense by multiplying the 23 active sources<sup>9</sup> by the \$2,400 annual fee per source.<sup>10</sup> The  
17 SWRCB's GO lists 25 sources for monitoring and testing but Cal Advocates reduces this  
18 number to 23 sources based on GSWC's response to discovery,<sup>11</sup> which indicates  
19 Imperial Wells No. 2 and 3 are currently inactive. As demonstrated in Table 1-2 below,  
20 Cal Advocates utilized DDW's GO list of water sources to determine how much should  
21 be authorized to each RMA. The following totals for each RMA's Water Treatment –

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<sup>5</sup> Based on SWRCB's presentation by Darrin Polhemus during California Water Association meeting on November 2<sup>nd</sup>, 2020

<sup>6</sup> Resolution W-5226

<sup>7</sup> Attachment 1: LCN-001 Q.2 Example Invoice for Primary-Blank Sample Analysis

<sup>8</sup> Attachment 2: LCN-004 Q2 Eurofins PFAS Testing Price Change.pdf

<sup>9</sup> The SWRCB's General Order lists 25 sources, but according to GSWC's response to LCN-005 Q.1B, Imperial Wells No. 2 and 3 are currently inactive, so Cal Advocates' recommended adjustment takes this into account

<sup>10</sup> Attachment 1: GSWC's response to LCN-001 Q.2, and LCN-001 Q.2 Example Invoice for Primary-Blank Lab Sample Analysis

<sup>11</sup> Attachment 3: GSWC's response to LCN-005 Q.1B

LAB account expense totals are reasonable, justified and should be adopted by the Commission.

**Table 1-3: GSWC vs. Cal Advocates Additional Lab Fees Compared**

RMA	Esc. 5-year Avg A	GSWC Sources B	GSWC Proposed Adjustment C	GSWC Totals D	GO Sources E	Cal Advocates Adjustment F	Cal Advocates Totals G
Arden Cordova	\$59,149	16	\$38,400	\$97,549	2	\$4,800	\$63,949
Bay Point	\$15,098	2	\$4,800	\$19,898	0	\$0	\$15,098
Clear Lake	\$15,119	1	\$2,400	\$17,519	0	\$0	\$15,119
Los Osos	\$25,877	8	\$19,200	\$45,077	0	\$0	\$25,877
Santa Maria	\$50,151	31	\$74,400	\$124,551	0	\$0	\$50,151
Simi Valley	\$20,536	2	\$4,800	\$25,336	0	\$0	\$20,536
Region 2	\$226,580	31	\$74,400	\$300,980	8	\$19,200	\$245,780
Region 3	(\$12,600) <sup>12</sup>	87	\$208,800	\$196,200	13	\$31,200	\$18,600
<b>TOTAL</b>	<b>\$399,910</b>	<b>178</b>	<b>\$427,200</b>	<b>\$827,110</b>	<b>23</b>	<b>\$55,200</b>	<b>\$455,110</b>

#### B. Uncollectibles

The Commission should reject GSWC’s proposal to increase its uncollectible ratio by 50%. GSWC speculates on the impact of Senate Bill No. 998, “The Water Shutoff Protection Act” (“SB 998”) without supporting data. Instead, the Commission should approve each RMA’s five-year average uncollectible expense ratio as the rate for estimating uncollectible expenses for TY 2022.

##### 1. SB998 Has No Significant Impact on Uncollectible Amounts

The uncollectible rate is determined by a given year’s total amount of uncollectible payments as a ratio of total operating revenues. For test year 2022, GSWC

<sup>12</sup> The escalated five-year average for Region 3 RMA is negative according to GSWC’s O and M-A and G Expenses workpapers, pg. 90

1 estimates a 50% increase in uncollectible rates from the 5-yr average ratio of  
2 uncollectible expense to revenue. GSWC's request assumes uncollectibles will increase  
3 by 50% because of SB998,<sup>13</sup> which extends the time period during which customers may  
4 not have their service disconnected due to nonpayment.<sup>14</sup> However, GSWC's reasoning  
5 is speculative and has no supporting data.

6 Effective February 1, 2020, SB 998 prohibits water utilities from disconnecting  
7 residential service for nonpayment until a payment has been delinquent for at least 60  
8 days. GSWC classifies a residential bill as delinquent after 19 days have passed from the  
9 bill mail date.<sup>15</sup> Prior to SB998, GSWC allowed residential customers a total of 45 days  
10 from the date the bill is mailed until service would be disconnected due to nonpayment.<sup>16</sup>

11 GSWC's interpretation of SB 998 increases the delinquency period prior to shut  
12 off from 26 days to roughly 63 days.<sup>17</sup> This means that residential customers originally  
13 had 26 days of delinquency before disconnection. With GSWC's new total of 82 days  
14 from bill mail date to disconnection due to nonpayment,<sup>18</sup> the SB998 adjustment means  
15 the time from delinquency to disconnection is now the minimum 63 days.<sup>19</sup>

16 Though GSWC cites to SB 998 as justification for its request, GSWC provides no  
17 data analysis and support for estimating a 50% increase in the uncollectibles rate. For  
18 example, GSWC has not conducted an aging analysis of its current outstanding service  
19 bills for this GRC,<sup>20</sup> which is key to determine whether the implementation of SB998 has  
20 had any negative impact on collecting unpaid residential bills and disconnections.

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<sup>13</sup> Sen. Bill No. 998 (2017-2018 Reg. Sess.) §§ 1&2; Health & Safety Code sections 116900-116926 ("The Water Shutoff Protection Act") (hereinafter "SB998")

<sup>14</sup> Direct Testimony of Brad Powell, pg. 5

<sup>15</sup> Attachment 4: GSWC's response to Cal Advocates' data request LCN-006, Q.5

<sup>16</sup> Attachment 4: GSWC's response to Cal Advocates' data request LCN-006, Q.1

<sup>17</sup> SB998 only applies to residential service connections and multi-unit residential customers, so delinquency and disconnection policies remain the same for non-residential customers

<sup>18</sup> Attachment 4: GSWC's response to Cal Advocates' data request LCN-006, Q.2

<sup>19</sup> Attachment 4: GSWC's response to LCN-006, Q.5 stated 82 days from bill mail date, but GSWC's website states 79 days (<https://www.gswater.com/disconnection-policy>), which is misleading to customers

<sup>20</sup> Attachment 4: GSWC's response to Cal Advocates' data request LCN-006, Q.6

1 GSWC's lack of evidence supporting its request is concerning, particularly as it is  
2 possible that SB 998 may in fact decrease uncollectibles by allowing residential  
3 customers more time to arrange for an alternative payment plan. By comparison, the  
4 previous disconnection policy allowed less time for residential customers to work out a  
5 payment arrangement and find other ways to pay the unpaid balance before  
6 disconnection. Before SB998, customers had only 26 days from delinquency to  
7 disconnection. That time period has been increased to 63 days as a result of SB998.  
8 Therefore, the additional time allowance could reduce disconnections and payment  
9 default.

10 2. GSWC's Uncollectible Rate Should Follow the Commission's Standard  
11 Rules of Practice of Using The Five-Year Average

12 The CPUC Water Division Standard Practice U-26 states: "Uncollectibles should  
13 be based upon previous recorded amounts, provided the utility has shown a conscientious  
14 effort to collect all past due bills."<sup>21</sup> The methodology to calculate the uncollectible rate  
15 has not been altered by the Water Shutoff Protection Act.

16 GSWC relies on speculation to establish an excessively high uncollectible rate and  
17 fails to present any studies to support its proposed 50% adjustment to the uncollectibles  
18 rate. Table 1-4 below shows the uncollectible rates for 2015-2019, the five-year average  
19 for these years, and GSWC's proposed uncollectible rates for each ratemaking area.<sup>22</sup>  
20  
21  
22  
23  
24  
25  
26

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<sup>21</sup> CPUC Water Division Standard Practice U-26 (July 2002) at pp. 8-9 (#5m)

<sup>22</sup> Annual Reports of GSWC Water Systems, Schedule B-1

**Table 1-4: GSWC’s Proposed vs. Cal Advocates’ Recommended Uncollectible**

**Rate**

<b>RMA</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Cal Advocates’ Five-Year Average Rate</b>	<b>GSWC’s Proposed Rate</b>
Arden Cordova	0.19%	0.28%	0.31%	0.34%	0.15%	0.26%	0.375%
Bay Point	0.38%	0.46%	0.52%	0.55%	0.45%	0.47%	0.708%
Clear Lake	0.68%	0.58%	0.68%	0.65%	0.70%	0.66%	0.986%
Los Osos	0.06%	0.07%	0.10%	0.09%	0.01%	0.07%	0.100%
Santa Maria	0.05%	0.29%	0.11%	0.12%	0.04%	0.12%	0.183%
Simi Valley	0.19%	0.16%	0.19%	0.21%	0.17%	0.18%	0.274%
Region 2	0.27%	0.18%	0.24%	0.25%	0.23%	0.23%	0.353%
Region 3	0.19%	0.14%	0.22%	0.23%	0.13%	0.18%	0.273%

Prior to signing SB998 into law, the California State Senate and Assembly’s analysis on its potential impacts emphasized how it was “difficult to ascertain the full scope of the problem” given the varying and limited data on discontinuation of service for nonpayment.<sup>23</sup> Still, the Senate Committee on Energy, Utilities and Communications found that the data shared did not suggest a widespread and severe issue of disconnection across utilities, rather it suggested a relatively low percentage of disconnections. In fact, service disconnections were found to be even less of an issue for low-income customers.<sup>24</sup> This means that extending the delinquent period will likely have a minimal impact on GSWC’s disconnections, and the amount of bills written-off as uncollectible.

Senate floor analyses show that the problem of “discontinuation of service due to nonpayment is significantly overstated.”<sup>25</sup> If this holds true, then GSWC’s projected increase in uncollectibles due to implementation of SB998 is also significantly overstated and the rate should instead be based on a historical average. GSWC provides no data to

<sup>23</sup> SB998 Analysis: 4/02/18 – Senate Energy, Utilities and Communications

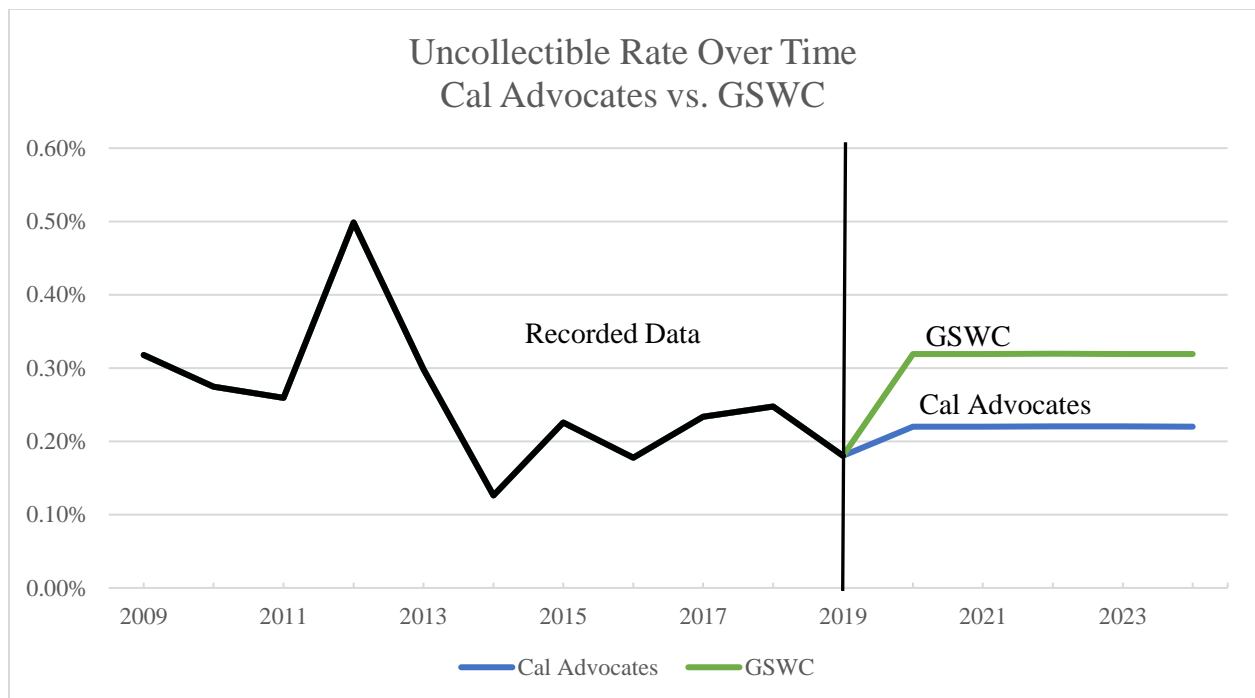
<sup>24</sup> SB998 Analysis: 4/02/18 – Senate Energy, Utilities and Communications

<sup>25</sup> 8/28/18 – Senate Floor Analyses

1 justify the high uncollectible rate that it requests. Thus, the most recent five-year average  
2 is the more reasonable approach to calculate the uncollectible rate.

3 Graph 1-1 below also illustrates how significant economic downturn normalizes  
4 over time without the need for intervention. With that said, events like COVID-19,  
5 which have brought on an economic recession, would not necessarily mean that the  
6 uncollectible rate should be raised because it may normalize by TY 2022. Furthermore,  
7 GSWC has a Catastrophic Events Memorandum Account (“CEMA”) that allows it to  
8 track incremental COVID19-related expenses that are not in the forecasted rates.  
9

10 **Graph 1-1: Uncollectibles Rate Over Time (2009-2024)**



11  
12 **3. The Commission Should Approve the Five-Year Average Uncollectible**  
13 **Rate**

14 In accordance with CPUC Water Division Standard Practice U-26, the  
15 Commission should approve each RMA’s five-year average uncollectible expense rate  
16 shown in Table 1-4 as the rate for calculating authorized uncollectible expenses for Test  
17 Year 2022. Cal Advocates developed this percentage by calculating the average ratio of  
18 uncollectible expense to revenue for the years 2015-2019. The uncollectible expense



1 should be calculated by multiplying these percentages by the authorized test year water  
2 service revenues. GSWC's recommendation should not be adopted because it speculates  
3 as to SB998's impact without supporting data, and conflicts with CPUC Standard  
4 Practice. Rather than increasing uncollectible amounts, SB998 is likely to decrease  
5 uncollectible expenses by allowing customers more time to make alternative payment  
6 arrangements. The Commission should not authorize GSWC's request for an arbitrary  
7 increase and should instead follow its own Standard Practice of utilizing a 5-yr average of  
8 recorded amounts to determine GSWC's authorized uncollectible expense for Test Year  
9 2022.

#### 11 C. Brine Waste Transportation and Disposal

12 The Commission should adopt the additional \$2,373,460 per year requested by  
13 GSWC over its historical O&M costs for brine waste transportation and disposal in the  
14 Bradshaw Well Field ("BWF"), which is located in the RMA's Barstow Customer  
15 Service Area of Region 3.<sup>26</sup> The sudden need to address brine comes from the Bradshaw  
16 Nitrate Removal Ion Exchange Treatment System ("Bradshaw Treatment Plant"),  
17 constructed in 2019 to address fluctuating nitrate levels at BWF. Nitrate treatment  
18 produces brine as a byproduct.

19 The additional \$2,373,460 annual expense for brine waste transportation and  
20 disposal should be included in the forecast of TY 2022 O&M expenses. According to  
21 GSWC's response to LCN-002, there is a strong possibility that GSWC could pursue  
22 litigation for the nitrate contamination against the polluters in the near future. However,  
23 the timing and outcome of any litigation, if any, is highly uncertain. GSWC should put  
24 forth its best effort to seek recovery from the polluters. Cal Advocates recommend that  
25 GSWC should provide the Commission with an annual status update on its effort to  
26 pursue recovery from the polluters. Any recovery from the polluters should be used to  
27 offset the future expenses of this treatment facility. Please refer to Cal Advocates'

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<sup>26</sup> Direct Testimony of Brad Powell, pg. 9

1 Report on Construction-Work-in-Progress and Special Request #7 for more information  
2 regarding Bradshaw Treatment Plant.

3 1. The Bradshaw Treatment Plant Was Necessary

4 Cal Advocates first investigated the necessity of the Bradshaw Treatment Plant  
5 constructed in 2019. In the Direct Testimony of Brad Powell, GSWC cited fluctuating  
6 nitrate levels at BWF, particularly the wells on the east side of the well field. When  
7 asked, GSWC provided nitrate levels<sup>27</sup> and a timeline of rapidly fluctuating nitrate levels  
8 starting in 2018.<sup>28</sup> As the severity progressed, GSWC then conducted a study where it  
9 concluded that the nearby B&E Dairy Farm was the likely contamination source.<sup>29</sup>

10 Upon meeting with Lahontan Regional Water Quality Control Board  
11 (“LRWQCB”) leadership, GSWC discovered that other private wells in the vicinity of the  
12 dairy farm were tested in 2013 under the same assumption that the dairy farm was  
13 causing fluctuating nitrate levels. This led LRWQCB to issue B&E Dairy a Cleanup and  
14 Abatement Order the same year.<sup>30</sup>

15 With continually rising nitrate levels, it was increasingly urgent to halt further  
16 contamination of the eastern wells and prevent contamination spread to the western wells.  
17 As a result, GSWC considered multiple treatment system vendors, and ultimately chose  
18 Evoqua based on how adjustments made due to the contamination were starting to impact  
19 other aspects of the Barstow system.<sup>31</sup> BWF is Barstow Customer Service Area’s  
20 (“CSA”) only source of water, and as such, GSWC took measures on an emergency  
21 timeline. In response to discovery,<sup>32</sup> GSWC explained that Barstow CSA has an isolated  
22 system, meaning that “there are no neighboring water purveyors to provide mutual aid or  
23 emergency water supply in the event of an emergency.” After reviewing GSWC’s  
24 discovery responses and supporting documentation, Cal Advocates concluded that the

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<sup>27</sup> Attachment 5: Attachment PLY-003 6A Bradshaw Nitrate Results 2017-2019

<sup>28</sup> Attachment 6: Attachment PLY-003 6F Nitrate Source Identification – Lahontan RWQCB

<sup>29</sup> Attachment 7: GSWC’s response to PLY-003 Q.6F

<sup>30</sup> Attachment 6: Attachment PLY-003 6F Nitrate Source Identification – Lahontan RWQCB

<sup>31</sup> Attachment 7: GSWC’s response to PLY-003 Q.6E

<sup>32</sup> Attachment 7: GWC’s response to PLY-003 Q.6D

1 Bradshaw Treatment Plant was necessary and, by extension, so were the accompanying  
2 brine transportation and disposal costs.

3 2. The Estimated Brine Transportation and Disposal Costs Are Reasonable

4 Cal Advocates requested a brine transportation and disposal-related cost estimate  
5 breakdown, as well as all brine disposal and transportation invoices, which provided the  
6 unit costs.<sup>33</sup> GSWC based the estimate on the plant's production levels and performance  
7 data since beginning operation in 2019. After reviewing the supporting documentation,  
8 Cal Advocates concluded that the brine transportation and disposal costs were reasonable.

9 In response to LCN-002 Q.1, regarding the discrepancy between cost estimates  
10 stated in Brad Powell's testimony and the Hanford and Insko Operating District Capital  
11 Testimony, GSWC clarified that the former was calculated based on "the average level of  
12 nitrate concentration of 10mg/L raw water and operation data collected after the  
13 treatment start-up phase," while the latter was based on "modeling conducted by the  
14 treatment plant vendor, Evoqua, prior to installation of the treatment plant." As such, Cal  
15 Advocates does not oppose the \$2,373,460 annual costs for brine transportation and  
16 disposal, as stated in the Direct Testimony of Brad Powell.

17  
18 D. Robbins System

19 Cal Advocates supports GSWC's acquisition of the Robbins Water System from  
20 Sutter County Waterworks District No. 1, as stated in Cal Advocates' response to  
21 GSWC's AL-1818-W1.<sup>34</sup> GSWC's AL-1818-W1, requesting authorization for the  
22 acquisition, is currently pending before the Commission. GSWC plans to consolidate  
23 Robbins into the Arden-Cordova CSA. As a direct result of the acquisition, GSWC  
24 requested additional costs to be added to the Arden Cordova RMA, including \$10,000 for  
25 water treatment expenses and \$10,400 per year for water quality sampling fees. Cal  
26 Advocates does not oppose the inclusion of \$10,000 for water treatment expenses and

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<sup>33</sup> Attachment 8: GSWC's response to LCN-002 Q.2

<sup>34</sup> Response of the Public Advocates Office to Golden State Water Company's Advice Letter 1818-W,  
requesting approval of the Acquisition of the Robbins Water System

1 \$10,400 per year for water quality sampling fees in this GRC, as they are reasonable  
2 expenses related to the Robbins acquisition.

3 1. Robbins Water System Is an Inadequately Operated and Maintained  
4 Small Water System

5 For decades, the Robbins Water System has failed to provide water that meets  
6 state and federal drinking water standards. Since 1992, the water system has amassed  
7 over 60 individual drinking water violations, many of which have to do with significant  
8 levels of arsenic.<sup>35</sup> When GSWC filed AL 1818-W, in addition to arsenic, Robbins  
9 System's Wagner Aviation Well exceeded secondary MCLs for iron, manganese, total  
10 dissolved solids, and chloride. Given this information, Cal Advocates does not oppose  
11 GSWC's request for additional water treatment and water quality sampling fees needed to  
12 investigate and address Robbins System's ongoing water quality issues.

13 2. Cal Advocates Does Not Oppose the Inclusion of Water Treatment and  
14 Water Quality Sampling Fees in this GRC

15 As Robbins is an inadequately operated and maintained water system,<sup>36</sup> water  
16 treatment expenses are necessary to address existing issues in water quality. The water  
17 quality sampling fees will allow further testing to identify any additional contamination  
18 that might also need to be addressed. Cal Advocates requested documentation supporting  
19 these costs, which GSWC provided in the form of cost calculations and invoices.<sup>37</sup> This  
20 documentation adequately supported GSWC's requested amounts.

21 Cal Advocates does not oppose the inclusion of \$10,000 for water treatment  
22 expenses and \$10,400 per year for water quality sampling fees in this GRC, as they relate  
23 to the Robbins acquisition.

24  
25 E. GSWC's Request for NO-DES Filters in its Region 2 and Region 3 RMAs

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<sup>35</sup>

[https://sdwis.waterboards.ca.gov/PDWW/JSP/Violations.jsp?tinwsys\\_is\\_number=5597&tinwsys\\_st\\_code=CA](https://sdwis.waterboards.ca.gov/PDWW/JSP/Violations.jsp?tinwsys_is_number=5597&tinwsys_st_code=CA)

<sup>36</sup> AL-1818-W1

<sup>37</sup> Attachment 9: GSWC's response to LCN-004

1 GSWC is requesting an additional \$21,000 per year for additional Neutral Output  
2 Discharge Elimination System (“NO-DES”) filters in Central (Region 2 RMA),  
3 Southwest (Region 2 RMA) and Orange County Districts (Region 3 RMA).<sup>38</sup> GSWC  
4 reasons that NO-DES flushing is superior to conventional flushing because it conserves  
5 water and asserts that any additional recorded costs will be offset by savings on supply  
6 water treatment costs. The specified areas have manganese build up which the NO-DES  
7 filters are meant to address. Cal Advocates does not oppose the \$21,000 yearly cost in  
8 Central, Southwest, and Orange County Districts for NO-DES filters because the filters  
9 are a cost-effective flushing method that conserves water.

#### 10 1. Water Conservation Benefits of NO-DES Flushing

11 NO-DES flushing will significantly reduce water loss normally expected during  
12 the conventional flushing process because it allows flushed water to be reintroduced into  
13 the system.<sup>39</sup> It is also more effective in that it removes sediment and particulate matter  
14 during the flushing process. The NO-DES website<sup>40</sup> boasts a flushing technique that is  
15 effective in addressing manganese and iron build up.

#### 16 2. Cost Benefits of NO-DES Flushing

17 When asked for a cost-benefit analysis, GSWC responded that it had not  
18 conducted a formal cost-benefit analysis, stating that it “would depend on various factors  
19 including the amount of NO-DES flushing performed in a given period.”<sup>41</sup> However, Cal  
20 Advocates agrees with GSWC that a one-time purchase of NO-DES filters could  
21 conserve 36 MG<sup>42</sup> of water, which would amount to upwards of \$135,000<sup>43</sup> total in water  
22 savings across all areas where GSWC requests filters. As discussed in Cal Advocates’  
23 Report and Recommendations on Region 3 Plant, Contingency, and Plant Escalation, Cal

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<sup>38</sup> Direct Testimony of Brad Powell

<sup>39</sup> Attachment 10: GSWC’s response to LCN-003 Q.1

<sup>40</sup> NO-DES Website: <https://www.no-des.com/particulate-removal>

<sup>41</sup> Attachment 10: GSWC’s response to LCN-003 Q.1.

<sup>42</sup> Attachment 10: GSWC’s response to LCN-003 Q.2.

<sup>43</sup> This estimate is derived by reducing non-revenue water by 6,000CCF in Central, 48,000CCF in Southwest, and 5,400CCF in Orange County. The amount of conserved water in Southwest was capped because of the maximum amount that the filters could be used for.

Advocates has imputed this water savings in its revenue requirement calculation by reducing \$135,000 in non-revenue water of GSWC’s supply forecast.<sup>44</sup> Should GSWC decide to implement NO-DES flushing more widely across its water systems in the future, GSWC should be required to conduct detailed cost-benefit analysis based on the performance of the filters in the upcoming cycle.

In GSWC’s next response to LCN-003 Q2, the utility reasoned that “there would essentially be no financial or water loss costs.” Cal Advocates does not oppose the \$21,000 yearly cost in each the Central, Southwest, and Orange County Districts for NO-DES filters. Despite the lack of formal cost-benefit analysis, NO-DES filters are a cost-effective method that will also contribute to water conservation efforts.

#### IV. Conclusion

To summarize, the Commission should adjust lab fees expense forecasts to reflect SWRCB’s most recent General Order. The Commission should also use the five-year average uncollectible rate for each RMA, as GSWC’s requested increase is unsupported.

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<sup>44</sup> Cal Advocates Report and Recommendations on Region 3 Plant, Contingency, and Plant Escalation, Attachment 2-5: Water Savings due to Implementation of NO-DES Flushing

## **CHAPTER 2: SUPPLY COSTS**

### **I. Introduction**

GSWC forecasts supply costs by applying the purveyor rates/schedules in effect at the time of their filing to projected water sales. Supply costs are a subset of Operations and Maintenance expenses, and include purchased water, lease water, purchased power, pump tax, and chemicals. Cal Advocates' supply expense forecast is based on its analysis of GSWC's workpapers, testimony and its response to the data requests.

### **II. Summary of Recommendations**

Table 2-1 below summarizes Cal Advocates' recommended adjustments to GSWC's forecasted supply expense budgets. The adjustments are the result of developing a more reasonable forecast methodology for purchased water expenses for each RMA as discussed below. Cal Advocates' test year 2022 proposals account for the likely increase in purchased water expenses based on historical average increase. GSWC's 2022 forecast, however, is based on the 2019 purveyor rates in effect at the time of its filing. Because these purveyor rates could be as stale as three years old by the time the test year rates on which they are set become effective, GSWC's methodology likely understates the purchased water expenses from 2020 to 2022.

**Table 2-1 Comparison of Proposed Supply Cost Budgets**

<b>Ratemaking Area</b>	<b>GSWC A</b>	<b>Cal Advocates B</b>	<b>Cal Advocates &gt; GSWC C</b>	<b>Cal Advocates as % of GSWC D</b>
Arden Cordova	\$1,437,107	\$1,581,057	\$143,950	110%
Bay Point	\$2,456,671	\$2,509,394	\$52,723	102%
Clear Lake	\$139,432	\$139,432	\$0	100%
Los Osos	\$197,692	\$197,692	\$0	100%
Santa Maria	\$2,477,207	\$2,601,122	\$123,915	105%
Simi Valley	\$8,547,923	\$9,145,711	\$597,788	107%
Region 2	\$51,763,527	\$52,886,435	\$1,122,908	102%
Region 3	\$39,985,900	\$40,800,798	\$814,898	102%
<b>TOTAL</b>	<b>\$107,005,459</b>	<b>\$109,861,641</b>	<b>\$2,856,182</b>	<b>103%</b>

### 1III. Discussion

#### 2 A. Purchased Water

3 To provide a more reasonable forecast of purchased water costs,<sup>45</sup> the Commission  
4 should adopt purchased water rates that are escalated from 2019 until the 2022 test year,  
5 using the average annual percentage change in purchased water rates experienced over  
6 the past five years (typically 2015 - 2019).

#### 7 1. Under-Forecasting Supply Costs in the GRC Hides Likely Bills 8 Increases through the Use of Offset Accounts

9 For test year 2022, GSWC calculates each RMA's total purchased water expenses  
10 by first determining the purchased water volume and multiplying by the purveyor water  
11 rates in effect in 2019.<sup>46</sup> GSWC's methodology for projecting purchased water does not  
12 include any probable cost increases between 2020 and 2022. Under-forecasting  
13 purchased water rates results in the illusion of a smaller increase in customer rates in the  
14 GRC.<sup>47</sup> However, purchased water expenses are tracked in expense offset accounts. Any  
15 under-forecast amount will be tracked and subjected to later recovery through surcharge.

16 To increase transparency and reduce the number and size of likely surcharges,  
17 GSWC should produce reasonable forecasts for all expense items, especially those items  
18 afforded the protection of being tracked in the balancing accounts. Adjusting purchased  
19 water costs by the average annual percentage change recorded over the past five years  
20 results in a forecast that is overall higher than GSWC's estimate. Although these  
21 amounts are tracked in Balancing Accounts and Memorandum Accounts, the most  
22 reasonable forecast possible should be adopted in order to minimize potential surcharges

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<sup>45</sup> Purchased water Costs are comprised of Quantity Charges and Other Charges

<sup>46</sup> Direct Testimony of Nanci Tran, pg. 17

<sup>47</sup> GSCW tracks the difference between its authorized budget and actual purchased water expense in its Modified Cost Balancing Account ("MCBA"). Amounts tracked here and in other balancing accounts are generally recovered later as surcharges in addition to rates authorized during a GRC. GSWC under-forecasting expenses it tracks in balancing accounts provides the Commission and customers with the false impression of a smaller proposed change in water rates, when a lower-than-reasonable forecast will produce a greater difference between the authorized and actual expenses, should the actual expenses be higher than forecasted. This larger difference is recorded to the balancing accounts and appears as surcharges on customer bills, while the illusion of lower "rates" is maintained.



on customers' bills. Any other differences in total purchased water expenses are the result of different estimates of water demand and production, which are addressed separately by Cal Advocates' witness, Chris Ronco.

2. Purchased Water Rates Should Be Derived Using the Five-Year Average Percent Change

The Commission should adopt purchased water rates that are derived using the five-year average annual percent change in purchased water rates. In cases where a purveyor rate has not been in place long enough to derive a reliable trend, or when it has historically fluctuated dramatically (such as is often the case for flow violation charges), Cal Advocates does not oppose GSWC's request to use the most recently available charge to forecast test year purchased water purveyor rates. Cal Advocates' forecasting methodology is based on historical five-year average, 2015-2019. In some cases where possible, Cal Advocates' five-year average also incorporates the most-recently known rates in 2020. Table 2-2 below provides a comparison of GSWC's proposed figures and Cal Advocates' adjustments.

**Table 2-2 Comparison of Proposed Purchased Water Budgets**

<b>Ratemaking Area</b>	<b>GSWC A</b>	<b>Cal Advocates B</b>	<b>Cal Advocates &gt; GSWC C</b>	<b>Cal Advocates as % of GSWC D</b>
Arden Cordova	\$644,919	\$788,869	\$143,950	122%
Bay Point	\$2,384,261	\$2,436,984	\$52,723	102%
Clear Lake	\$31,503	\$31,503	\$0	100%
Los Osos	\$0	\$0	\$0	0%
Santa Maria	\$583,140	\$707,055	\$123,915	121%
Simi Valley	\$8,353,463	\$8,951,352	\$597,889	107%
Region 2	\$38,959,835	\$39,039,387	\$79,552	100%
Region 3	\$23,367,897	\$24,182,795	\$814,898	103%
<b>TOTAL</b>	<b>\$74,325,018</b>	<b>\$76,137,945</b>	<b>\$1,812,927</b>	<b>102%</b>

1                   B. Electric Purchased Power

2                   GSWC forecasts electric purchased power expense by applying the forecasted cost  
3 per Kilowatt (\$/KWH) to total KWH forecasted in each CSA.<sup>48</sup> GSWC first calculated  
4 the \$/KWH by using 2019 recorded purchased power expense divided by 2019 KWH  
5 used. The 2019 \$/KWH was escalated to come up with \$/KWH for TY 2022, and then  
6 applied to forecasted supply volumes to come up with Escalation Years 2023, 2024. Cal  
7 Advocates supports the use of escalation factors to derive TY 2022 forecast but opposes  
8 additional escalations for 2023 and 2024. The Commission's Rate Case Plan (RCP)  
9 (D.07-05-062) prohibits escalating supply costs during a GRC's escalation years.

10                   1. Decision 07-05-062 Prohibits GSWC From Escalating Supply Costs in  
11                   Escalation Years

12                   The rate case plan, Decision 07-05-062, prohibits GSWC from escalating supply  
13 costs in escalation years.<sup>49</sup> It states that "revenue requirement amounts otherwise subject  
14 to rate recovery, e.g., through balancing or memorandum accounts, shall not be subject to  
15 escalation."<sup>50</sup> Therefore, GSWC's proposed methodology to escalate its purchased  
16 power expenses for Escalation Years 2023 and 2024 are both unnecessary and prohibited  
17 by the RCP.

18  
19IV.    **Conclusion**

20                   To summarize, the purchased water forecasts should be adjusted based on the  
21 average percent increase in rates for more accurate forecasts and the escalation of the  
22 2023 and 2024 attrition years from the electric purchased power expense should be  
23 removed.

---

<sup>48</sup> Direct Testimony of Nanci Tran, page 18

<sup>49</sup> D.07-05-062, VII. Escalation and Attrition Advice Letter Procedure

<sup>50</sup> D.07-05-062, VII. Escalation and Attrition Advice Letter Procedure, pg. A-19

**ATTACHMENT 1: GSWC'S RESPONSE TO  
LCN-001 Q.2, AND LCN-001 Q.2 EXAMPLE  
INVOICE FOR PRIMARY-BLANK LAB  
SAMPLE**



August 20, 2020

Lauren Cunningham, Public Advocates Office  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request LCN-001 (A.20-07-012) PFOA-PFOS Testing Response  
Due Date: August 24, 2020

Dear Lauren Cunningham,

In response to the above referenced data request number, we are pleased to submit the following responses:

**Question 1:**

Please identify all O&M expenses forecasted in the GRC for PFOA/PFOS testing activities.

**Response 1:**

See attachment "LCN-001 Q.1 PFOA PFOS Forecasted Lab Fees" in Excel format.

**Question 2:**

Please provide documentation supporting your estimate of \$600 per water source per quarter for PFOA/PFOS testing conducted by a certified third party.

**Response 2:**

See attachment "LCN-001 Q.2 Example Invoice for Primary-Blank Lab Sample Analysis" in PDF format. The analytical lab method mandated by DDW requires that each PFOA/PFOS sample consist of the primary water sample and a field blank sample. If there are any PFAS detections in the primary sample, the analytical lab method requires the field blank sample to be analyzed. This additional test is conducted to determine if the primary sample was potentially contaminated by the ambient environment during sample collection. As shown in the example invoice provided for a dual collection service, the primary sample analysis cost is \$400. Additionally, the lab charges \$200 to preserve the

**Question 2:**

Please provide documentation supporting your estimate of \$600 per water source per quarter for PFOA/PFOS testing conducted by a certified third party.

**Response 2:**

See attachment "LCN-001 Q.2 Example Invoice for Primary-Blank Lab Sample Analysis" in PDF format. The analytical lab method mandated by DDW requires that each PFOA/PFOS sample consist of the primary water sample and a field blank sample. If there are any PFAS detections in the primary sample, the analytical lab method requires the field blank sample to be analyzed. This additional test is conducted to determine if the primary sample was potentially contaminated by the ambient environment during sample collection. As shown in the example invoice provided for a dual collection service, the primary sample analysis cost is \$400. Additionally, the lab charges \$200 to preserve the

1

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field blank sample as required by DDW. If the primary sample is non-detect for PFAS analytes, then the total cost is \$600. If any PFAS analytes are detected in the primary sample, the field blank sample is analyzed and the total cost for the analysis is \$800. For estimating purposes, GSWC espoused a conservative approach and did not include costs for any PFAS detections in the forecasted years. All test instances were anticipated to be non-detect at a cost of \$600 each.



Eaton Analytical

 Folder #: 871845  
 Received Date: 2020-05-19

 Client Name: [GSTATE-FOOT] Golden State Water Company - 14278  
 Project: SOUTH-SAN-GABRIEL  
 Sample Group: SG - Plant SGTP

PO #: V # 59350 &amp; Contract # 2869 OB

## Billing Address:

 Accounts Payable  
 Golden State Water Company  
 630 E. Foothill Blvd.  
 AP - V59350  
 San Dimas, CA 91773

## Report Address:

 Alex Chakmak  
 Golden State Water Company - Foothill District  
 401 South San Dimas Canyon Road  
 San Dimas, CA 91773

## Please Remit To:

 Eurofins Eaton Analytical, LLC  
 Post Office Box 95362  
 Grapevine, TX 76099-9733 USA

## Wiring Instruction:

 Bank Name: Regions Bank  
 Bank Address: 1900 5th Avenue, #300  
 Birmingham, AL 35203 USA

## Payment questions or inquiries:

AR\_PA@eurofinsus.com

Account Name: Eurofins Eaton Analytical

Account #: 013 987 9755

Routing #: 062 005 690

Swift #: UPNBUS44

--- Please note the address change ---

## Online Credit Card Payment:

<https://regions.billeriq.com/ebpp/EurofinsEA/>

	Order #	Sample ID	Sampled	
@537.1				
1	202005190294	SGTP Comb Final Eff	2020-05-19	400.00
			Profile Subtotal:	400.00
@537.1 FB				
1	202005190295	HOLD Field Blank	2020-05-19	200.00
			Profile Subtotal:	200.00

Total Due (USD): 600.00
-------------------------

TERMS = PAY UPON RECEIPT - 18% CHARGE PER YEAR ON PAST DUE ACCOUNTS

Page 1 of 1

750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 www.EurofinsUS.com/Eaton

**ATTACHMENT 2: LCN-004 Q.2 EUROFINS  
PFAS TESTING PRICE CHANGE.PDF**



September 3, 2020

Lauren Cunningham, Public Advocates Office  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request LCN-004 (A.20-07-012) Robbins System Response  
Due Date: September 4, 2020

Dear Lauren Cunningham,

In response to the above referenced data request number, we are pleased to submit the following responses:

The following question(s) refer to the Direct Testimony of Brad Powell, which states at page 10:  
"Additional costs have been added to the Arden Cordova RMA to reflect acquisition of the Robbins System. The inflation-adjusted, five-year historical average for Arden Cordova has been increased annually by \$10,000 for water treatment expenses and \$10,400 per year for water quality sampling lab fees."

**Question 1:**

Please provide an explanation and all supporting documentation for GSWC's estimated cost of \$10,000 for water treatment expenses.

**Response 1:**

The annual estimate for water treatment expenses for the Robbins System is comprised of three components: Ferric Chloride (used for arsenic treatment), Sodium Hypochlorite (used for system residual), and sludge hauling. See attachment "LCN-004 Q.1 Robbins Water Treatment" in Excel format for cost calculations. Documentation supporting the vendor costs can be found in the attached "LCN-004 Q.1 Water Treatment Invoices" electronic folder.



**White, Dawn R.**

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**Subject:** FW: Golden State Water sample sites for PFAS sampling

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From: Rick Zimmer <RickZimmer@eurofinsUS.com>  
Sent: Monday, April 8, 2019 10:15 AM  
To: Martin, Kate <Kate.Martin@gswater.com>  
Subject: RE: Golden State Water sample sites for PFAS sampling

Here are the PFAS unit prices:

EPA 537 rev1.1 = \$300  
EPA 537.1 = \$400

The price for the field blank analysis is the same as the price for the test. We are offering an extract and hold option (50% of the cost of the test price) for water system customers who would only like us to analyze the FBs if the associated sample has a detect.

**Rick Zimmer**  
Senior Account Manager  
Mobile: +1 949-466-8266  
E-Mail: [RickZimmer@EurofinsUS.com](mailto:RickZimmer@EurofinsUS.com)

Please note that our standard [Terms and Conditions](#) apply to the prices quoted.

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]

# **ATTACHMENT 3: GSWC'S RESPONSE TO LCN-005 Q.1B**



September 4, 2020

Lauren Cunningham, Public Advocates Office  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request LCN-005 (A.20-07-012) Pioneer Wells Response  
Due Date: September 4, 2020

Dear Lauren Cunningham,

In response to the above referenced data request number, we are pleased to submit the following responses:

The following questions refer to the Direct Testimony of Brad Powell, which states at page 10:

"In the Central Basin-East CSA of the Region 2 RMA, costs have been added to the inflation-adjusted, five-year historical average due to PFOA/PFOS contamination of the Imperial Wells resulting in removal from service. As a result, associated groundwater production has been shifted to the Pioneer wells. The Pioneer wells are equipped with granular activated carbon ("GAC") treatment to remove volatile organic compounds ("VOC"). The increased production at the Pioneers wells has resulted in extra GAC media change outs. The added media cost included is \$200,000 beginning in 2021."

**Question 1:**

Please provide an explanation and supporting documentation, with PFOA/PFOS levels included, as to why it was necessary for GSWC to remove Imperial Wells from service.

- a. Was GSWC recommended or ordered to remove the Imperial Wells from service by DDW or any other government agency? If so, provide documentation of such order or recommendation.
- b. At what date were the Imperial Wells removed from service?

**Question 1:**

Please provide an explanation and supporting documentation, with PFOA/PFOS levels included, as to why it was necessary for GSWC to remove Imperial Wells from service.

- a. Was GSWC recommended or ordered to remove the Imperial Wells from service by DDW or any other government agency? If so, provide documentation of such order or recommendation.
- b. At what date were the Imperial Wells removed from service?

1

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**Response 1:**

- a. On March 15, 2019, the State Water Resource Control Board (SWRCB) ordered GSWC to begin collecting PFOA and PFOS samples on Imperial wells as part of the Phase I initiative, pursuant to Health and Safety Code section 116400 (quarterly for one year). GSWC determined that Imperial Well No. 2 contained PFOS levels that exceeded the notification level. As a result of exceeding the PFOS notification level, notification letters were sent to the SWRCB, California Public Utilities Commission, and customers on August 21, 2019. Imperial Well No. 3 sample results in 2019 indicated PFOA and PFOS were detected below the notification levels. GSWC took a cautious approach and proactively removed both Imperial Wells from service on June 26, 2019.
  - b. The Imperial Wells No. 2 and No. 3 were removed from service on June 26, 2019.
-

**ATTACHMENT 4: GSWC'S RESPONSE TO  
CAL ADVOCATES' DATA REQUEST LCN-  
006, Q (1, 2, 5, AND 6)**



September 9, 2020

Lauren Cunningham, Public Advocates Office  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request LCN-006 (A.20-07-012) Uncollectible Response  
Due Date: September 9, 2020; Extension Due Date: September 14, 2020

Dear Lauren Cunningham,

In response to the above referenced data request number, we are pleased to submit the following responses:

The following question(s) refer to the Direct Testimony of Brad Powell, which states at page 5:

"The effective date of SB 998 was February 1, 2020. SB 998 provides customers additional time to pay their bill prior to being shut off for nonpayment. Implementing SB 998's requirements will allow non-paying customers to accumulate 35 more days of billed charges prior to disconnection. As historical Uncollectible expense included 60 days of billed charges prior to SB 998, the new time allowance will increase Uncollectible expense by over half. Accordingly, the historical Uncollectible ratio for each RMA has been increased by 50% to account for this new legislation (see RO model workbook "SEC-10\_SOE")."

**Question 1:**

Prior to the enactment of SB 998, what was the standard number of days of unpaid billed charges GSWC would allow a customer to accrue before disconnecting that customer's service?

**Response 1:**

Prior to the enactment of SB 998, single-family customers were allowed 45 calendar days from the bill mail date and multi-family customers were allowed 50 calendar days from the bill mail date before services could be discontinued for nonpayment. If the account

**Question 1:**

Prior to the enactment of SB 998, what was the standard number of days of unpaid billed charges GSWC would allow a customer to accrue before disconnecting that customer's service?

**Response 1:**

Prior to the enactment of SB 998, single-family customers were allowed 45 calendar days from the bill mail date and multi-family customers were allowed 50 calendar days from the bill mail date before services could be discontinued for nonpayment. If the account

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remained unpaid after seven days from the disconnection of service date, the account status is changed to "Closed" and a final bill is issued.

---

**Question 2:**

What is the current number of days of unpaid billed charges GSWC will allow a customer to accrue prior to considering that customer's account "uncollectible?"

**Response 2:**

Currently single-family and multi-family customers are allowed 82 calendar days (approximately 35 more days due to SB 998 mandates) from the bill mail date before services can be discontinued for nonpayment. The implementation of SB 998 did not have any impact on GSWC's definition of an uncollectible account. Currently and prior to implementation of SB 998 requirements, customers' final bills (the total bill issued after the account is closed) that remain unpaid for 45 calendar days or more are considered uncollectible. The final bill is only issued after a customer's account is closed for any reason.

---

**Question 5:**

Please provide an explanation of the accounting of past-due amounts that are subject to an alternative payment arrangement, including a description of whether these amounts are included as "uncollectibles."

**Response 5:**

GSWC provides alternate payment arrangements to customers with past due amounts (defined as unpaid for over 19 calendar days from bill mail date) until the scheduled disconnection date. Consideration is given to residential customers that are experiencing hardship or health and safety conditions. Alternative payment arrangement situations do not meet the two-prong uncollectible test described in Response #4.

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**Question 6:**

Has GSWC conducted an aging of its outstanding service bills for this GRC? If yes, please provide a copy of the study in Excel.

**Response 6:**

GSWC has not conducted an aging of its current outstanding service bills for this GRC.

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**ATTACHMENT 5: ATTACHMENT PLY-003  
6A BRADSHAW NITRATE RESULTS 2017-  
2019**



August 24, 2020

Phong Ly, Utilities Engineer  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request PLY-003 (A.20-07-012) CWIP Category 5  
Due Date: August 10, 2020; Extension Due Date: August 24, 2020

Dear Phong Ly,

In response to the above referenced data request number, we are pleased to submit the following responses:

**Category 5 CWIP Requested Projects:**

These questions relate to the Category 5 CWIP projects listed in the prepared testimony of Elizabeth McDonough and Dane Sinagra ("2020 CWIP Testimony"). Category 5 refers to those new projects that have not been previously reviewed by the CPUC.

**Question 1:**

**Cabrillo Tank – Demolish Reservoir (1451751-01/ 14631080):**

- a. Please provide evidence to show that the remaining book value of this asset has been removed from rate base. Also provide information on the date that it was removed from rate base.

**Response 1:**

- a. The book value of this asset has not been removed from rate base because the reservoir is still in-service. The reservoir is proposed to be demolished in 2021 and will be removed from rate base at that time.

	A	B	C	D	E	F	G	H
1	Sample Date ▾	site label ▾	Analyte ▾	Result ▾	Unit ▾		PLY-003 Q6.a	
2	2/24/2017 11:30:00 AM	Bradshaw Well #01	Nitrate (as N)	2.6	mg/L			
3	12/4/2017 9:59:00 AM	Bradshaw Well #01	Nitrate (as N)	2.6	mg/L			
4	2/20/2018 11:58:00 AM	Bradshaw Well #01	Nitrate (as N)	2.8	mg/L			
5	5/8/2018 11:32:00 AM	Bradshaw Well #01	Nitrate (as N)	4.3	mg/L			
6	6/4/2018 8:58:00 AM	Bradshaw Well #01	Nitrate (as N)	7.6	mg/L			
7	6/18/2018 2:05:00 PM	Bradshaw Well #01	Nitrate (as N)	9.3	mg/L			
8	6/22/2018 1:22:00 PM	Bradshaw Well #01	Nitrate (as N)	8.7	mg/L			
9	6/25/2018 11:50:00 AM	Bradshaw Well #01	Nitrate (as N)	9.4	mg/L			
10	7/2/2018 10:37:00 AM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
11	7/9/2018 10:17:00 AM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
12	7/16/2018 11:52:00 AM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
13	8/13/2018 11:17:00 AM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
14	9/10/2018 11:42:00 AM	Bradshaw Well #01	Nitrate (as N)	11	mg/L			
15	10/15/2018 11:09:00 AM	Bradshaw Well #01	Nitrate (as N)	11	mg/L			
16	11/5/2018 11:49:00 AM	Bradshaw Well #01	Nitrate (as N)	11	mg/L			
17	12/10/2018 10:50:00 AM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
18	1/7/2019 12:22:00 PM	Bradshaw Well #01	Nitrate (as N)	11	mg/L			
19	2/4/2019 12:20:00 PM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
20	3/4/2019 10:00:00 AM	Bradshaw Well #01	Nitrate (as N)	11	mg/L			
21	4/1/2019 8:36:00 AM	Bradshaw Well #01	Nitrate (as N)	11	mg/L			
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25	9/3/2019 11:29:00 AM	Bradshaw Well #01	Nitrate (as N)	9.8	mg/L			
26	9/16/2019 1:09:00 PM	Bradshaw Well #01	Nitrate (as N)	9.8	mg/L			
27	9/23/2019 1:17:00 PM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
28	9/30/2019 11:49:00 AM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
29	10/7/2019 9:20:00 AM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
30	10/14/2019 10:41:00 AM	Bradshaw Well #01	Nitrate (as N)	9.5	mg/L			
31	10/21/2019 1:14:00 PM	Bradshaw Well #01	Nitrate (as N)	9.8	mg/L			
32	10/28/2019 9:47:00 AM	Bradshaw Well #01	Nitrate (as N)	9.9	mg/L			
33	11/4/2019 11:47:00 AM	Bradshaw Well #01	Nitrate (as N)	9.8	mg/L			
34	11/12/2019 1:01:00 PM	Bradshaw Well #01	Nitrate (as N)	10	mg/L			
35	11/18/2019 10:00:00 AM	Bradshaw Well #01	Nitrate (as N)	9.7	mg/L			
36	11/25/2019 11:11:00 AM	Bradshaw Well #01	Nitrate (as N)	9.8	mg/L			
37	12/2/2019 12:57:00 PM	Bradshaw Well #01	Nitrate (as N)	9.8	mg/L			
38	12/9/2019 9:29:00 AM	Bradshaw Well #01	Nitrate (as N)	9.6	mg/L			
39	12/16/2019 11:58:00 AM	Bradshaw Well #01	Nitrate (as N)	9.6	mg/L			
40	12/23/2019 9:19:00 AM	Bradshaw Well #01	Nitrate (as N)	9.5	mg/L			
41	12/30/2019 12:10:00 PM	Bradshaw Well #01	Nitrate (as N)	9.5	mg/L			
42								
43								
<div> <div>BR Well #1</div> <div>BR Well #5</div> <div>BR Well #10</div> <div>BR Well #14</div> <div>+</div> </div>								

	A	B	C	D	E	F	G	H
1	Sample Date	site label	Analyte	Result	Unit		PLY-003 Q6.a	
25	10/22/2018 11:47:00 AM	Bradshaw Well #05	Nitrate (as N)	8.5	mg/L			
26	10/29/2018 11:18:00 AM	Bradshaw Well #05	Nitrate (as N)	8.6	mg/L			
27	11/5/2018 11:42:00 AM	Bradshaw Well #05	Nitrate (as N)	8.2	mg/L			
28	11/13/2018 12:07:00 PM	Bradshaw Well #05	Nitrate (as N)	8.2	mg/L			
29	11/19/2018 12:18:00 PM	Bradshaw Well #05	Nitrate (as N)	8.1	mg/L			
30	12/3/2018 12:24:00 PM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
31	12/10/2018 10:37:00 AM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
32	12/17/2018 1:13:00 PM	Bradshaw Well #05	Nitrate (as N)	7.4	mg/L			
33	12/26/2018 1:08:00 PM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
34	12/31/2018 12:10:00 PM	Bradshaw Well #05	Nitrate (as N)	7	mg/L			
35	1/7/2019 12:10:00 PM	Bradshaw Well #05	Nitrate (as N)	7.1	mg/L			
36	1/22/2019 9:30:00 AM	Bradshaw Well #05	Nitrate (as N)	6.8	mg/L			
37	2/4/2019 12:35:00 PM	Bradshaw Well #05	Nitrate (as N)	6.7	mg/L			
38	3/4/2019 12:14:00 PM	Bradshaw Well #05	Nitrate (as N)	6.7	mg/L			
39	4/1/2019 11:36:00 AM	Bradshaw Well #05	Nitrate (as N)	6.6	mg/L			
40	5/6/2019 10:55:00 AM	Bradshaw Well #05	Nitrate (as N)	6.8	mg/L			
41	6/3/2019 1:24:00 PM	Bradshaw Well #05	Nitrate (as N)	6.6	mg/L			
42	7/1/2019 11:53:00 AM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
43	8/5/2019 11:14:00 AM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
44	9/3/2019 9:44:00 AM	Bradshaw Well #05	Nitrate (as N)	7.5	mg/L			
45	9/16/2019 12:58:00 PM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
46	9/23/2019 1:30:00 PM	Bradshaw Well #05	Nitrate (as N)	7.4	mg/L			
47	9/30/2019 11:40:00 AM	Bradshaw Well #05	Nitrate (as N)	7.2	mg/L			
48	10/7/2019 9:29:00 AM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
49	10/14/2019 10:52:00 AM	Bradshaw Well #05	Nitrate (as N)	7	mg/L			
50	10/21/2019 12:30:00 PM	Bradshaw Well #05	Nitrate (as N)	7.4	mg/L			
51	10/28/2019 9:20:00 AM	Bradshaw Well #05	Nitrate (as N)	7.2	mg/L			
52	11/4/2019 9:03:00 AM	Bradshaw Well #05	Nitrate (as N)	7.2	mg/L			
53	11/12/2019 12:39:00 PM	Bradshaw Well #05	Nitrate (as N)	7.7	mg/L			
54	11/18/2019 9:07:00 AM	Bradshaw Well #05	Nitrate (as N)	7	mg/L			
55	11/25/2019 10:45:00 AM	Bradshaw Well #05	Nitrate (as N)	7.1	mg/L			
56	12/2/2019 8:32:00 AM	Bradshaw Well #05	Nitrate (as N)	7.3	mg/L			
57	12/9/2019 12:17:00 PM	Bradshaw Well #05	Nitrate (as N)	6.9	mg/L			
58	12/16/2019 11:49:00 AM	Bradshaw Well #05	Nitrate (as N)	7	mg/L			
59	12/23/2019 9:56:00 AM	Bradshaw Well #05	Nitrate (as N)	6.8	mg/L			
60	12/30/2019 12:35:00 PM	Bradshaw Well #05	Nitrate (as N)	6.7	mg/L			
61								
<div> <div>BR Well #1</div> <div>BR Well #5</div> <div>BR Well #10</div> <div>BR Well #14</div> <div>+</div> </div>								

	A	B	C	D	E	F	G
1	Sample Date	site label	Analyte	Result	Unit		PLY-003 Q6.a
2	2/21/2017 12:31:00 PM	Bradshaw Well #10	Nitrate (as N)	4.3	mg/L		
3	10/30/2017 7:57:00 AM	Bradshaw Well #10	Nitrate (as N)	6.9	mg/L		
4	12/4/2017 8:49:00 AM	Bradshaw Well #10	Nitrate (as N)	6.8	mg/L		
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	A	B	C	D	E	F	G	H
1	Sample Date	site label	Analyte	Result	Unit		PLY-003 Q6.a	
2	9/27/2017 11:09:00 AM	Bradshaw Well #1	Nitrate (as N	9.5	mg/L			
3	10/30/2017 10:48:00 AM	Bradshaw Well #1	Nitrate (as N	9.3	mg/L			
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10	9/10/2018 11:50:00 AM	Bradshaw Well #1	Nitrate (as N	10	mg/L			
11	10/15/2018 11:04:00 AM	Bradshaw Well #1	Nitrate (as N	10	mg/L			
12	11/5/2018 11:59:00 AM	Bradshaw Well #1	Nitrate (as N	9.9	mg/L			
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27	9/3/2019 7:46:00 AM	Bradshaw Well #1	Nitrate (as N	9.6	mg/L			
28	9/9/2019 10:16:00 AM	Bradshaw Well #1	Nitrate (as N	9.5	mg/L			
29	9/16/2019 9:55:00 AM	Bradshaw Well #1	Nitrate (as N	9.7	mg/L			
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40	11/25/2019 10:54:00 AM	Bradshaw Well #1	Nitrate (as N	10	mg/L			
41	12/2/2019 9:39:00 AM	Bradshaw Well #1	Nitrate (as N	10	mg/L			
42	12/9/2019 9:10:00 AM	Bradshaw Well #1	Nitrate (as N	10	mg/L			
43	12/16/2019 10:59:00 AM	Bradshaw Well #1	Nitrate (as N	10	mg/L			
44	12/23/2019 9:38:00 AM	Bradshaw Well #1	Nitrate (as N	9.6	mg/L			
45	12/30/2019 12:40:00 PM	Bradshaw Well #1	Nitrate (as N	8.8	mg/L			
46								
47								
48								
	BR Well #1		BR Well #5		BR Well #10		BR Well #14	

**ATTACHMENT 6: ATTACHMENT PLY-003**  
**6F NITRATE SOURCE IDENTIFICATION –**  
**LAHONTAN RWQCB**



August 24, 2020

Phong Ly, Utilities Engineer  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request PLY-003 (A.20-07-012) CWIP Category 5  
Due Date: August 10, 2020; Extension Due Date: August 24, 2020

Dear Phong Ly,

In response to the above referenced data request number, we are pleased to submit the following responses:

**Category 5 CWIP Requested Projects:**

These questions relate to the Category 5 CWIP projects listed in the prepared testimony of Elizabeth McDonough and Dane Sinagra ("2020 CWIP Testimony"). Category 5 refers to those new projects that have not been previously reviewed by the CPUC.

**Question 1:**

**Cabrillo Tank – Demolish Reservoir (1451751-01/ 14631080):**

- a. Please provide evidence to show that the remaining book value of this asset has been removed from rate base. Also provide information on the date that it was removed from rate base.

**Response 1:**

- a. The book value of this asset has not been removed from rate base because the reservoir is still in-service. The reservoir is proposed to be demolished in 2021 and will be removed from rate base at that time.





November 2, 2018

Ms. Patty Kouyoumdjian  
Lahontan Regional Water Quality Control Board  
14440 Civic Drive, Suite 200  
Victorville, CA 92392

VIA EMAIL

**Subject: Nitrate Source Identification – Bradshaw Wellfield  
Golden State Water Company - Barstow System**

Dear Ms. Kouyoumdjian:

Golden State Water Company (GSWC) requests the Lahontan Regional Water Quality Control Board (Lahontan Board) to initiate actions to further characterize and abate all nitrate sources that are contributing to nitrate impacts to GSWC's Bradshaw Wellfield.

GSWC, a subsidiary of American States Water Company, is an investor-owned utility providing water service to approximately 260,000 customers located throughout 10 counties in California, including service to the Barstow community. GSWC's Barstow System is reliant solely on local groundwater supplies utilizing 17 active groundwater wells. Eleven of these wells are part of GSWC's Bradshaw Wellfield (see Figure 1) which are located along the southern edge of the BNSF Classification Yard at the western terminus of Bradshaw Drive in the City of Barstow. The production wells that make up the Bradshaw Wellfield serve as the primary source of water for the Barstow System and any water quality impacts, such as elevated nitrate levels, harms water system reliability of the GSWC Barstow System. Recent impacts of this wellfield by nitrate as outlined below have reduced the production capacity of the Bradshaw Wellfield and it is of utmost urgency to address the sources and take actions to ensure additional wells are not impacted and that wells currently impacted can be returned to service.

#### **Bradshaw Nitrate Impacts**

In late 2017, two of the Bradshaw production wells had elevated nitrate levels as compared to other wells in the Bradshaw wellfield. Bradshaw Well 14 and Bradshaw Well 10 had reported nitrate as nitrogen levels of 9.5 mg/l and 6.9 mg/l, respectively, while the remaining suite of wells in the wellfield had reported levels of 3 mg/l or below. The maximum contaminant level (MCL) for nitrate as nitrogen is 10 mg/l. With concentrations of nitrate reported just under the MCL, Bradshaw Well 14 had been taken out of production in October 2017. In Spring of 2018, reported nitrate levels began to increase in multiple Bradshaw Wellfield wells as can be observed in Figure 2 which graphs nitrate concentrations observed in the Bradshaw Wells over time beginning in late 2017. Nitrate concentrations in Bradshaw Wells 14, 10, 1, 5 and 12 increased rapidly and in an east to west progression resulting in three of the wells currently exceeding the nitrate MCL and one well exceeding the 80% level of the MCL. Four Bradshaw wells have been taken out of production (Bradshaw Wells 1, 5, 10, and 14) to date severely impacting water production capacity for the Barstow System. GSWC has temporarily shifted some of the system's production to our Glen Road Wellfield located to the west and is currently evaluating a multimillion dollar project to construct nitrate treatment facilities at the Bradshaw Wellfield that would treat only one or two wells.

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In July 2018, GSWC initiated discussions with Lahontan Board staff, Jehiel Cass and Ghasem Pour-Ghasemi. Per those discussions as well as discussions with Mojave Water Agency staff, GSWC has been apprised of past investigations of the near-by commercial feedlot, B & E Dairy located immediately upstream of GSWC's Bradshaw Wellfield on the north side of the Mojave River at 26599 Community Boulevard, Barstow, CA. We have learned that a draft Cleanup and Abatement Order (CAO) had been issued by Lahontan Board to B&E Dairy based on nitrate occurrence data from a sampling event in 2013 of private domestic wells both upgradient and downgradient of the B&E dairy. Data reported from domestic wells located downgradient of B&E Dairy along Waterman Avenue indicated the occurrence of nitrate impacts up to 19 mg/l which are consistent with nitrate impacts to GSWC production wells in the Bradshaw Wellfield greater than 10 mg/l.

On October 9, 2018, GSWC sampled seven of the Bradshaw wells for surfactants (MBAS via EPA method 425.1) to evaluate whether a nearby sewer or septic source could be a potential source. All samples were reported non-detect for MBAS and provides additional information suggesting that the source of nitrate impacting our Bradshaw Wellfield is not from a septic or sewer release.

GSWC's Bradshaw Wellfield had seen a rapid increase and serious impact to wells by nitrate from a localized source impacting the aquifer. Source identification and mitigation is of the utmost importance to ensure that the Barstow System can provide adequate supply to its customers. The spatial occurrence of nitrate in the aquifer between the B&E Dairy and GSWC's Wellfield indicated a likely source to be the B&E dairy. GSWC respectfully requests Lahontan to begin a source characterization investigation and mitigation program to protect GSWC's wellfield and to halt and reverse those nitrate impacts already observed.

We are available to meet at your earliest convenience to discuss this important matter. Please contact me at (714) 535-7711 ext. 314 should you need any additional information.

Sincerely,



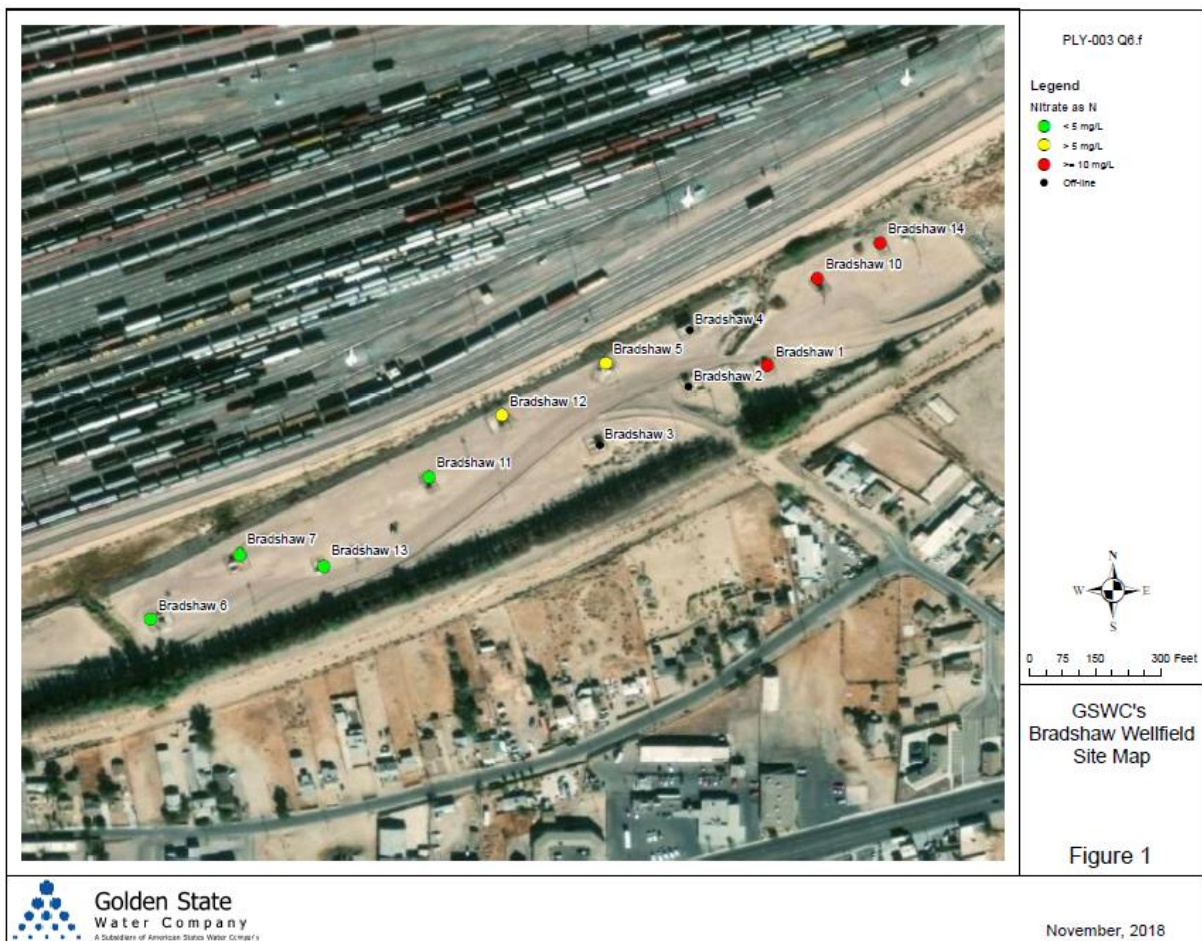
Toby B. Moore, PhD PG CHG  
Water Resources Manager and Chief Hydrogeologist

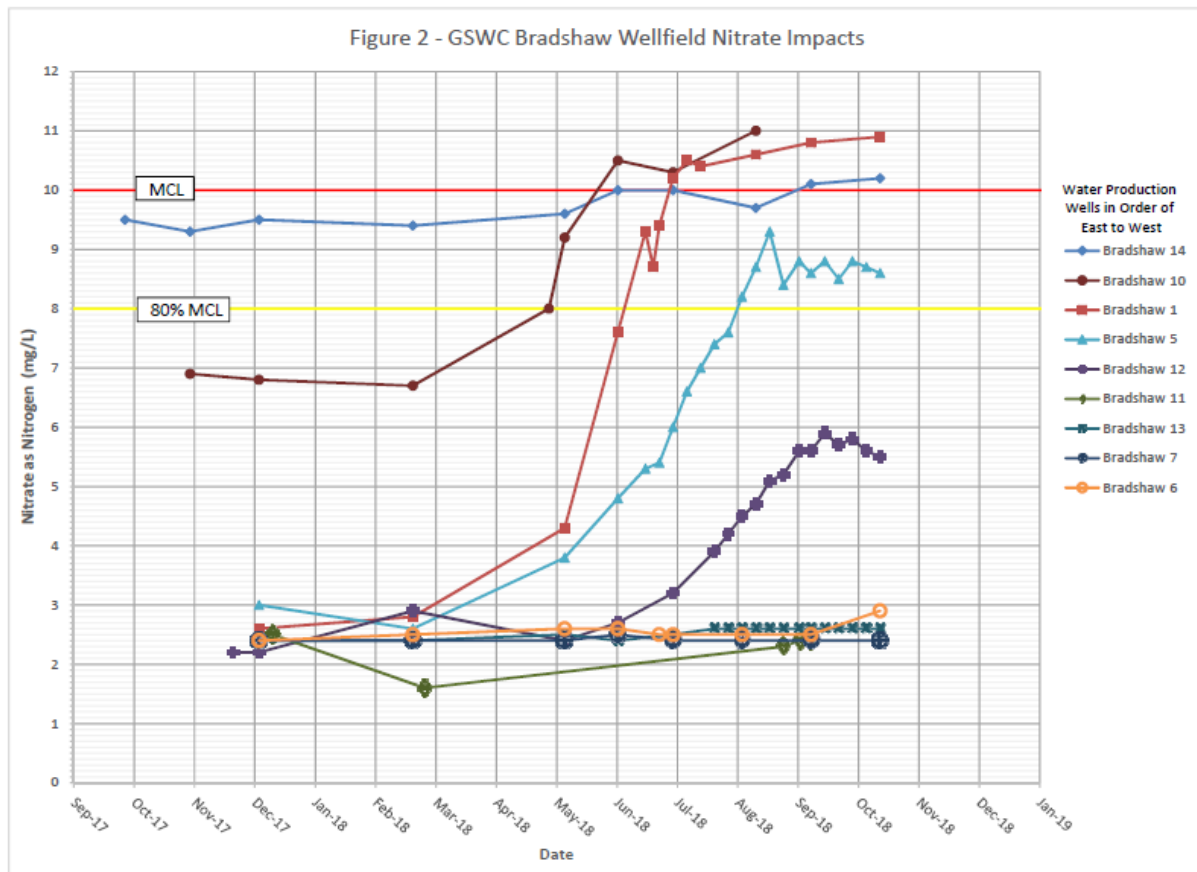
CC:

Jehiel Cass, Lahontan Regional Water Quality Control Board  
Tom McCarthy, Mojave Water Agency  
Curt Mitchell, City of Barstow  
Sean McCarthy, State Water Resources Control Board, Division of Drinking Water  
Eric Zuniga, State Water Resources Control Board, Division of Drinking Water  
Perry Dahlstrom, GSWC  
William Gedney, GSWC  
Paul Rowley, GSWC  
George Zakhari, GSWC

Enclosures:

Figure 1 – GSWC Bradshaw WellField Site Map  
Figure 2 – Nitrate Trend Analysis – GSWC Bradshaw Wellfield





**ATTACHMENT 7: GSWC'S RESPONSE TO**  
**PLY-003 Q. (6D, 6E AND 6F)**



August 24, 2020

Phong Ly, Utilities Engineer  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request PLY-003 (A.20-07-012) CWIP Category 5  
Due Date: August 10, 2020; Extension Due Date: August 24, 2020

Dear Phong Ly,

In response to the above referenced data request number, we are pleased to submit the following responses:

**Category 5 CWIP Requested Projects:**

These questions relate to the Category 5 CWIP projects listed in the prepared testimony of Elizabeth McDonough and Dane Sinagra ("2020 CWIP Testimony"). Category 5 refers to those new projects that have not been previously reviewed by the CPUC.

**Question 1:**

**Cabrillo Tank – Demolish Reservoir (1451751-01/ 14631080):**

- a. Please provide evidence to show that the remaining book value of this asset has been removed from rate base. Also provide information on the date that it was removed from rate base.

**Response 1:**

- a. The book value of this asset has not been removed from rate base because the reservoir is still in-service. The reservoir is proposed to be demolished in 2021 and will be removed from rate base at that time.



d. No formal studies by outside parties were conducted for this project. However, the Water Quality Department with the support of the Water Supply and Operation Departments evaluated the 2018 nitrate results in addition to nitrate concentrations from previous years and determined there was a need to construct an Ion exchange (IOX) treatment unit to remove nitrate in the Barstow System Bradshaw Well Field (BWF).

Nitrate impacts to both the Regional and Floodplain aquifers in the Centro subbasin of the Mojave Basin and utilized by GSWC to provide supply to not only the BWF but all wells supplying the Barstow System have experienced elevated nitrate concentrations. These impacts are noted in the Salt and Nutrient Plan<sup>1</sup>, completed by the Mojave Water Agency, and are interpreted to be associated with current and/or legacy dairy and agricultural operations. Limited investigations into source identification have been performed by the Lahontan Regional Water Quality Control Board, and as such, is of great concern to ongoing and potential increased nitrate being captured by GSWC wells throughout the Barstow System.

The nitrate monitoring indicated elevated concentrations of nitrate in Wells 1, 5, 10, and 14. The concentration of nitrate in Well 1 and 5 increased rapidly (25% to 75%) from May 8, 2018, to June 4, 2018, and were removed from service because they were approaching the MCL of 10 mg/L. Bradshaw Wells 10 and 14 were also removed from service due to nitrate concentrations reaching the MCL. In 2018, nitrate level at the BWF indicated that the concentration of nitrate was increasing in the wells at the east end of the well field. For clarification, there are additional wells located in this well field that are to the west of the wells identified in this project.

Of note, the Barstow water system is fully reliant on groundwater as the sole source of water supply and is also an isolated system - meaning there are no neighboring water purveyors to provide mutual aid or emergency water supply in the event of an emergency. In addition to providing water supply, production from the wells at the eastern end of the BWF is needed to protect the wells on the western end of the BWF from potential nitrate infiltration. There was a need to procure and install an ion exchange treatment system before the summer of 2019, in order to protect the BWF from further contamination and also to ensure enough reliable supply to meet maximum day demand of firm capacity.

<sup>1</sup> Kennedy Jenks and Todd Groundwater, 2015, *Salt and Nutrient Management Plan, Mojave Water Agency*, December, 2015 ([https://www.mojavewater.org/files/Mojave-SNMP\\_FINAL\\_Volume\\_I\\_II\\_Dec2015.zip](https://www.mojavewater.org/files/Mojave-SNMP_FINAL_Volume_I_II_Dec2015.zip)).

- e. Based on an evaluation of different treatment options/vendors, the Evoqua ion-exchange system was selected by Golden State Water Company (GSWC).

During the summer of 2018, there were discussions with Evoqua Water Technologies about the potential need for emergency ion exchange treatment in the BWF. Evoqua was the only vendor responsive to our inquiries and likely the only vendor able to supply emergency treatment since they operate the only resin regeneration facility in Southern California.

GSWC made significant adjustments to the water supply sources and reconfigured the distribution system to stabilize the water supply situation for the summer of 2018. These system operating adjustments had significant hydraulic impacts to other portions of the Barstow system and required additional flow rate and pressure monitoring. A determination was then made, that a permanent treatment solution was needed to be in place by the summer of 2019. Evoqua was familiar with the situation and able to provide a proposal that would meet the project deadline objective of May 1, 2019. Several other vendors/technologies were evaluated (see table below) but none could meet the project deadline.

Company	Product Name	Basic Technology	Details
AdEdge	ADNO3	Ion Exchange	Traditional IOX; requires 3 months design time and 3 to 4 months to manufacture.
AdEdge	Biotta	Biological	2-3 months pilot testing required; permitting would take much longer than IOX.
Ionex SG	IX-N	Ion Exchange	Sulfate return system reduces brine. New technology – requires pilot study before construction, which would add several months to project timeline.
WRT	Z-XM	Ion Exchange	Traditional IOX. System treats 100% of flow. Unclear on ability to meet project timeline.
Calgon Carbon	ISEP	Ion Exchange	Traditional IOX. Turn-table style which is not preferred.
MicroVi		Biological	2-3 months pilot testing required; permitting would take much longer than IOX. Microbes are encapsulated and not able to divide which eliminates biomass.
Evoqua		Ion Exchange	Only provider that can meet the project timeline.



In addition, GSWC engineering and operation staff visited an existing Evoqua Nitrate system in operation at a local water company and inspected the facility and spoke with operations staff about the performance and reliability of the Evoqua Nitrate system. This additional information increased GSWCs level of confidence that the Evoqua Nitrate Treatment system could be constructed in the aggressive timeline and perform as required. Given the competing demands of meeting the water supply needs of the Barstow system during the late spring through early fall months, and protecting the Bradshaw Well Field from additional Nitrate contamination, GSWC determined that Evoqua Water Technologies was the only vendor able to meet this timeline (construction and permitting considered) and operating objectives.

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- f. Please refer to the attached November 2, 2018 letter addressed to the Executive Director of the Lahontan Regional Water Quality Control Board named "Attachment PLY-003 6f Nitrate Source Identification - Lahontan RWQCB" that describes in detail the time series and associated nitrate concentrations to the wells in the BWF. This letter also clearly documents efforts to engage the Lahontan Board to investigate, characterize and abate the source of nitrate resulting in impacts to the wellfield. The primary candidate identified to date as the responsible party is the B&E Dairy located to the north-northwest of the wellfield. Based on this party as the source, GSWC's hydrogeology team concluded that utilization of the wells on the eastern portion of the wellfield may hydraulically contain the interception of the suspected nitrate plume originating from the north-northwest.
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**ATTACHMENT 8: GSWC'S RESPONSE TO**  
**LCN-002 Q.2**



September 4, 2020

Lauren Cunningham, Public Advocates Office  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request LCN-002 (A.20-07-012) Bradshaw Well Field  
Due Date: August 31, 2020; Extension due date: September 4, 2020

Dear Lauren Cunningham,

In response to the above referenced data request number, we are pleased to submit the following responses:

The following questions refer to the Direct Testimony of Brad Powell, which states at page 9:

#1 "The brine is hauled offsite and disposed of at a cost of \$2,455 per load. Based on anticipated BTP future operations for 2022, 2023 and 2024, approximately 19 truckloads will be hauled off each week. The anticipated annual expense for transportation and disposal of the brine waste offsite is \$2,373,460 per year in 2019 dollars."

And the "Hanford and Insko Operating District Capital Testimony," which states at page 266:

#2 "The treatment plant generates approximately 18,100 gallons of brine waste per day. The daily cost to haul the brine is approximately \$11,600. This translates to an annual waste disposal cost of approximately \$3,300,000 per year."

**Question 1:**

Is GSWC referring to the same expenses in the two descriptions above?

**Response 1:**

Yes, GSWC is referring to the same expense in the two descriptions 1 & 2 above.

- #1 expense estimate was based on the average level of nitrate concentration of 10 mg/L raw water and operation data collected after the treatment start-up phase.

- #2 expense estimate based on modeling conducted by the treatment plant vendor, Evoqua, prior to installation of the treatment plant.

**Question 2:**

Please provide documentation supporting GSWC's estimated cost of brine transportation and disposal.

**Response 2:**

Based on the treatment plant performance data, and an average nitrate concentration of 10mg/L, the amount of brine generated per gallon of treated water is approximately .0133 gallons. At a plant flow rate of 2,100 gallons per minute, the volume of waste generated per day is approximately 12,714 gallons mg/L. The table #1 below provides the breakdown details for brine waste transportation and disposal cost.

Table #1

Time Period (Days)	365
Gallons water pumped from Bradshaw wells 2,10, and 14 per day	2,118,992
Percent Filtered (Average)	45%
Gallons Filtered Per Day	953,546.30
Gallons Filtered Per Regen	330,000
Number of Regens Per Day	2.9
Gallons Waste Per Regen	4,400
Gallons of Waste Per Day	12,714
Average Gallons Per Load	4,800
Number of Loads Per Day	2.6
Average cost Per Load	\$ 2,455
Number of Loads Per year	967
Number of Loads Per week	19
Estimated Cost for brine waste hauling away and disposal	\$2,373,460

**ATTACHMENT 9: GSWC'S RESPONSE TO**  
**LCN-004**



September 3, 2020

Lauren Cunningham, Public Advocates Office  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request LCN-004 (A.20-07-012) Robbins System Response  
Due Date: September 4, 2020

Dear Lauren Cunningham,

In response to the above referenced data request number, we are pleased to submit the following responses:

The following question(s) refer to the Direct Testimony of Brad Powell, which states at page 10:

"Additional costs have been added to the Arden Cordova RMA to reflect acquisition of the Robbins System. The inflation-adjusted, five-year historical average for Arden Cordova has been increased annually by \$10,000 for water treatment expenses and \$10,400 per year for water quality sampling lab fees."

**Question 1:**

Please provide an explanation and all supporting documentation for GSWC's estimated cost of \$10,000 for water treatment expenses.

**Response 1:**

The annual estimate for water treatment expenses for the Robbins System is comprised of three components: Ferric Chloride (used for arsenic treatment), Sodium Hypochlorite (used for system residual), and sludge hauling. See attachment "LCN-004 Q.1 Robbins Water Treatment" in Excel format for cost calculations. Documentation supporting the vendor costs can be found in the attached "LCN-004 Q.1 Water Treatment Invoices" electronic folder.

**Question 2:**

Please provide an explanation and all supporting documentation for GSWC's estimated cost of \$10,400 for water quality sampling fees.

**Response 2:**

See attachment "LCN-004 Q.2 Robbins Water Quality Sampling" in Excel format for a summary of the required testing included in the monitoring plan. Documentation supporting the vendor costs can be found in the attached "LCN-004 Q.2 Water Quality Sampling Pricing" electronic folder. Most test samples are shipped to Eurofins for processing, but in situations where short hold times are required the sample must be processed at a closer location. BSK is used in those short hold time situations as noted on the Excel summary.

If you have any questions, please do not hesitate to call me at (909) 394-3600, Extension 680.

Sincerely yours,

 Digitally signed by J. Darney  
DN: cn=jadarney  
Date: 2020.09.01 10:30:50  
+0700

For Keith Switzer  
Vice President – Regulatory Affairs

c: Eileen Odell, Project Lead  
Victor Chan, Project Coordinator  
Shanna Foley, Attorney for Public Advocates Office  
Joseph Karp, Attorney for GSWC  
Chris Kolosov, Attorney for GSWC  
Jenny Darney-Lane, Manager of Regulatory Affairs  
Jon Pierotti, Manager of Regulatory Affairs

**ATTACHMENT 10: GSWC'S RESPONSE TO**  
**LCN-003 Q.1 AND Q.2**





September 3, 2020

Lauren Cunningham, Public Advocates Office  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request LCN-003 (A.20-07-012) NO-DES Filters Response  
Due Date: September 3, 2020

Dear Lauren Cunningham,

In response to the above referenced data request number, we are pleased to submit the following responses:

The following questions refer to the Direct Testimony of Brad Powell, which states at page 10:

"Costs of \$21,000 per year have been added to inflation-adjusted, five-year historical average for Central (Region 2 RMA), Southwest (Region 2 RMA) and Orange County Districts (Region 3 RMA) related to additional Neutral Output Discharge Elimination System ("NO-DES") filters. These disposal bag filters will allow more instances of NO-DES main flushing which is superior to conventional flushing as it removes sediments and particulate matter during the flushing operation and conserves water."

**Question 1:**

Please provide an explanation and cost-benefit analysis for NO-DES flushing versus conventional flushing.

**Response 1:**

Typical distribution flushing operations remove unwanted particulates in a specific area by expelling the potable water holding those particulates. The NO-DES flushing equipment GSWC purchased in 2019 preserves system water via filtration vessels and reintroduces the filtered water to the distribution system through carefully controlled and monitored procedures. This water-conserving approach reduces water loss compared to

conventional flushing methods. As the NO-DES process is new technology and only began being used in GSWC's system in late 2019, there are no recorded O&M costs in the five-year history for replacement filter costs. NO-DES was implemented as an environmentally-responsible way to improve water quality. In addition to the critical water conservation benefits, significantly reducing the amount of potable water lost during flushing procedures will enable GSWC to comply with water loss control regulations currently under development. A formal cost-benefit analysis has not been conducted and would depend on various factors including the amount of NO-DES flushing performed in a given period.

**Question 2:**

Please provide an explanation and documentation supporting how much water NO-DES filters would save per year. Also provide explanation on why a cost of \$21,000 should be added where the NO-DES flushing will reduce water waste during flushing.

**Response 2:**

Based on equipment flow meter data from August 2019 through August 2020, the initial, introductory flushing operations GSWC conducted with the NO-DES system conserved 3.33 million gallons (MG) of potable water. In addition to the significant water savings generated through this method, the related savings of supply and treatment costs provide valuable ancillary benefits. The disposable bag filters utilized in the NO-DES process allow the flushed water to be reintroduced to the system. The proposed \$21,000 would provide the materials needed to flush (and conserve) approximately 36 MG of potable water. The filter costs are being added to certain CSAs because this new flushing process has not been used in the past anywhere in GSWC's service areas and there are no previous filter expenses in the historical cost data. Due to the nominal filter costs (based on the volume of water a filter can process) there would essentially be no financial or water loss costs associated with the NO-DES flushing process. Conversely, conventional flushing wastes significant potable water and all the associated costs to obtain and treat the water.

If you have any questions, please do not hesitate to call me at (909) 394-3600, Extension 680.

**ATTACHMENT 11: AA9-002 Q.2D**  
**ESTIMATED UDF COST BALL ROAD**  
**WELL.XLSX**



August 12, 2020

Anthony Andrade, Public Advocates Office Engineer  
**CALIFORNIA PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco, CA 94102

Subject: Data Request AA9-002 (A.20-07-012) Region 3 Ball Plant Treatment  
Due Date: August 12, 2020

Dear Anthony Andrade,

In response to the above referenced data request number, we are pleased to submit the following responses:

**Question 1:**

In "Hanford and Insko Operating District Capital Testimony," pp. 191-193, GSWC requests an iron (Fe) and manganese (Mn) removal system at Region III's Ball Plant.

- a. Has the Division of Drinking Water (DDW) of the State Water Resources Control Board issued a permit for GSWC's requested Fe and Mn removal system? If so, provide a copy of this permit.
- b. Has DDW recommended that GSWC treat Ball Well No. 1 for Fe and Mn? If so, provide a copy of the communication in which DDW issued this recommendation

**Response 1:**

- a) No, the Division of Drinking Water will only issue a permit amendment for a treatment system once the construction has been completed.
- b) No, the Division of Drinking Water will not enforce any treatment if the constituents are detected below the regulatory levels.

**Question 2:**

1

A	B	C	D	E	F	G	H	I	J	K	L	M
1	UDF Cost Estimate for Area Surrounding Ball Road Plant											
2		Total Volume Flushed (gals)	Total Volume Flushes (A-F)	Water Cost (USD)	UDF Flushing Labor Hours	UDF Labor Cost (USD)		Fe & Mn Removal System				
3	Area 1	717,700	3	\$ 4,125	90	\$ 3,960	Cost for Design and Permit	\$ 183,900.00				
4	Area 2	451,410	2	\$ 2,750	108	\$ 4,752	Cost for Construction	\$ 1,062,700.00				
5	Area 3	479,480	2	\$ 2,750	72	\$ 3,168	Total Cost	\$ 1,246,600.00				
6	Area 4	1,752,300	6	\$ 8,250	288	\$ 12,672						
7	Total per UDF Event	3,400,890	13.0	\$ 17,875	558	\$ 24,552	2021 Cost per Af MWD with capacity charges and RTS	\$1,375.00	29			
8	Annual UDF Water Cost	\$ 18,000					Average WDO Labor Charge/hr		44			
9	Annual UDF Labor Cost	\$ 25,000					Average Loaded WDO Labor Charge/hr					
10	Annual Water Quality Complaint Field Investigation Cost	\$ 2,409										
11	Annual Labor Cost	\$ 27,409		Add Fuel and vehicle charges/night	52							
12	1 Year Total Cost	\$ 49,059		Total Fuel and Vehicle Charges	3,650							
13	5 Year Total Cost	\$ 273,738										
14	7.5 Year Total Cost	\$ 451,236										
15	10 Year Total Cost	\$ 661,555										
16	15 Year Total Cost	\$ 1,201,846										
17	20 Year Total Cost	\$ 1,945,261										
18	Notes											
19	21. Labor cost per hour=	\$ 44	(2020 Average WDO fully loaded internal labor rate)									
20	22. Water cost per rfs=	\$ 1,375	(2020-2021 Cost per Af MWD with capacity charges and RTS)									
21	23. Labor hour and volume flushed estimated based on 2015 UDF effort											
22	24. Assumes annual UDF efforts around the Ball Plant only (UDF Areas 1-4): 14 weeks total with two trucks per night averaging 15 miles each per night and 3 gallons each of fuel consumption											
23	25. Assume water used to flush Area 1-4 is MWD Full treated import water from OC-55 (closest source to Ball Road Plant)											
24	26. Labor Escalation	3.0%										
25	27. Annual Water Cost Escalation	5.0%										
26	28. Hours operators spent on investigating complaints is calculated by the 2013-2016 average annual discolored water complaints multiplied by 1 hr of investigation per complaint.											
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## **ATTACHMENT 12: STATEMENT OF QUALIFICATIONS**

1       **STATEMENT OF QUALIFICATIONS – LAUREN**  
2       **CUNNINGHAM**

3   Q1.   Please state your name, business address, and position with the California Public  
4       Utilities Commission (“Commission”).

5   A1.   My name is Lauren Cunningham, and my business address is 505 Van Ness  
6       Avenue, San Francisco, California 94102. I am a Public Utilities Regulatory  
7       Analyst in the Water Branch of the Public Advocates Office.

8   Q2.   Please summarize your education background and professional experience.

9   A2.   I received a Bachelor of Arts Degree in Economics, with minors in Spanish and  
10       Mandarin Chinese, from California State University, Sacramento in January 2020.  
11       I have been with the Public Advocates Office – Water Branch since July 2020.

12   Q3.   What is your responsibility in this proceeding Golden State Water Company GRC  
13       A.20-07-012?

14   A3.   I am responsible for the preparation of the Report and Recommendations on O&M  
15       and Supply for Golden State Water Company general rate case test year 2022.

16   Q4.   Does this conclude your prepared direct testimony?

17   A4.   Yes, it does.

18